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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jaime L. Prieto Jr.

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7590

08/10/2005

Patent Counsel

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EXAMINER

JONES, PRENELL P

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/575,552

Applicant(s)

PRIETO JR. ET AL.

Examiner

Prenell P. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,11-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 4,11,12 and 15 is/are allowed.
- 6) ☐ Claim(s) 13,14,16-19 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Response to Arguments

1. Applicant's arguments with respect to claims 4, 11-19 and 21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 13, 14, 16-19 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 13, Applicant is claiming in line 6 and 7, "switch for switching data packets from each uplink to selected queues based on priority-classes of data packets", whereby "**selected queues**" is not disclosed in the specification.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 13, 14, 16-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al in view of Silberschatz et al and Nattkemper et al.

Regarding claims 13, 14, 16-18 and 21, Zimmerman discloses (Abstract, Figs. 12-14B, col. 7, line 34-45, col. 9, line 12-17, col. 21, line 53 thru col. 22, line 57, col. 23, line 2-3,) self-correcting bandwidth allocation in a wireless communication system wherein the architecture includes base station MAC scheduler that allocates bandwidth for the uplink and downlink dynamically, whereby the MAC scheduler maintains a set of queues for each physical channel that it serves, (col. 31, line 38-45) present invention can be implemented in a satellite communication system, (col. 15, line 49-58, col. 26, line 35-38, line 60-65,) bandwidth added dynamically, (col. 9, line 13-26, col. 21, line 53 thru col. 24, line 58, col. 26, line 35-65, col. 27, line 24 thru col. 28, line 7) MAC scheduler/base station maps and allocates bandwidth dynamically with respect to bit rate priority using various QoS techniques such as fair-weighted queuing and round robin queuing that depend on varied traffic characteristics (parameters), and (col. 6, line 30-40) aggregate bandwidth (statistical/measured) is used by the base station reset (update) records to reflect current bandwidth requirements, and (Fig. 14a, col. 27, line 24 thru col. 28, line 45) allocation of

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bandwidth based on data arrival. Zimmerman further discloses (Fig. 12, 13, Abstract) plurality of uplink CPEs with associated connected queues. However, Zimmerman is silent on changing bandwidth of a queue while the queue is buffering packets and switching data to queues with respect based on priority class of packet. In analogous art, Silberschatz discloses (Abstract, col. 2, line 50 thru col. 4, line 57, managing a buffer pool containing multiple queues wherein queues are buffered and packets are dropped with respect to packet data flow, link scheduler as part of a gateway (base station) to increase system efficiency, a fair drop buffer management is used in connection with a per-flow fair link scheduling algorithm which is implemented in a gateway/scheduler, buffering based on link speed, (col. 5, line 50-67) buffer share changes over time with arrivals and departures of packets, as flows backlog and reduce their bandwidth, (col. 7, line 22-36) flows participate in bandwidth reduction (changing bandwidth) which occurs when signals (packet drop/packets buffered) are sent repeatedly, (col. 2, line 50-65, col. 5, line 50-57) a buffer management method which includes managing a buffer pool containing a plurality of queues, the buffer share of node changes over time with the arrivals and departures of packet flow, as flows backlog and reduce bandwidth usage, and as excess buffer capacity unused by one queue is relocated, and (Fig. 3, col. 5, line 1-67) queue selection process wherein the queues are associated with individual leaf nodes, and Nattkemper discloses (Fig. 10, 6, col. 59, line 12-54) a data packet switching and scheduling system wherein the architecture includes a plurality of subscribers assigned to associated individual buffers/queues, and data is routed in the upstream direction whereby data is associated with queues wherein a priority scheme allows each queue to accommodate different classes of services with respect to customer traffic. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement changing bandwidth of a queue while a queue is being buffered as taught by the combined teachings of Silberschatz and Nattkemper while

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communicating data between transmitting node and receiving node (uplink-downlink) with the teachings of Zimmerman for the purpose utilizing bandwidth efficiently as well as minimizing contention in queues. In addition, it would have been further obvious to one of ordinary skill in the art at the time of the invention to implement queues servicing packets as associated with various traffic priority classes as taught by Nattkemper with the teachings of Zimmerman for the purpose of further managing data in buffer queues to effectively accommodate customers communicating in a network.

Regarding claims 19, as indicated above, Zimmerman discloses (Abstract, Figs. 12-14B, col. 7, line 34-45, col. 9, line 12-17, col. 21, line 53 thru col. 22, line 57, col. 23, line 2-3,) self-correcting bandwidth allocation in a wireless communication system wherein the architecture includes base station MAC scheduler that allocates bandwidth for the uplink and downlink dynamically, whereby the MAC scheduler maintains a set of queues for each physical channel that it serves, (col. 31, line 38-45) present invention can be implemented in a satellite communication system, (col. 15, line 49-58, col. 26, line 35-38, line 60-65,) bandwidth added dynamically, (col. 9, line 13-26, col. 21, line 53 thru col. 24, line 58, col. 26, line 35-65, col. 27, line 24 thru col. 28, line 7) MAC scheduler/base station maps and allocates bandwidth dynamically with respect to bit rate priority using various QoS techniques such as fair-weighted queuing and round robin queuing that depend on varied traffic characteristics (parameters), and (col. 6, line 30-40) aggregate bandwidth (statistical/measured) is used by the base station reset (update) records to reflect current bandwidth requirements, and (Fig. 14a, col. 27, line 24 thru col. 28, line 45) allocation of bandwidth based on data arrival. Zimmerman further discloses (col. 9, line 13-53) bandwidth requirements allocated with respect to QoS and high priority class (CBR).

Reason for Allowance

1. Claims 4, 11, 12 and 15 are allowed over prior art.
2. The following is an examiner's statement of reasons for allowance: The prior art fail to teach/suggest, switching data packets from each uplink to a selected queue based on priority, a look-up table storing a master frame allocating bandwidth to at least one queue, memory storing a packet service schedule identifying an order in which data packets pass over the downlink, packet service schedule based on bandwidth allocation calculated by scheduler, and measuring a phase of each stream stored in priority class queue as being indicative of an amount of the time lapsed since a data packet from a particular priority-class queue was output to the downlink channel.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

August 8, 2005


CHI PHAM
SUPERVISORY PATENT EXAMINEE
TECHNOLOGY CENTER 2800 8/8/05